

AMENDMENTS TO THE CLAIMS

1-16. (Cancelled)

17. (New) A method for collecting acrylic acid comprising:

introducing a reaction gas into a collection column at a temperature of 140 to 250°C, the reaction gas comprising acrylic acid obtained by catalytic vapor-phase oxidation of propane, propylene, and/or acrolein;

introducing an aqueous medium into the collection column at a temperature of 20 to 50°C whereby the acrylic acid in the reaction gas is collected in the aqueous medium to produce an acrylic acid aqueous solution;

causing the acrylic acid aqueous solution to flow out from the bottom of the collection column;

causing the reaction gas remaining after the collection step to flow out from the top of the collection column; and

performing heat removal in the collection column by using a heat-removing device on the collection column to maintain the following condition: $0.8 < (B/A) < 1.25$, wherein A represents a weight fraction of acrylic acid to all condensable ingredients in the reaction gas before collecting acrylic acid and B represents a weight fraction of acrylic acid in the bottom of the collection column.

18. (New) The method according to claim 17, wherein the aqueous medium introduced into the collection column is an aqueous solution that comprises at least 90 wt% of water.

19. (New) The method according to claim 17, wherein the temperature at the top of the collection column is 72°C or less, and the temperature of the bottom at the collection column is 86°C or less.

20. (New) The method according to claim 17, wherein a water content in the aqueous medium introduced into the collection column is 0.5- to 2-fold of a water content in the reaction gas introduced into the collection column.

21. (New) The method according to claim 17, wherein a degree of fluctuation of the temperature at the top of the collection column is within 2°C in steady operation conditions.

22. (New) The method according to claim 21, wherein the temperature at the top of the collection column is kept within $\pm 1^\circ\text{C}$ of a temperature in steady operation conditions.

23. (New) The method according to claim 17, wherein the aqueous medium introduced into the collection column comprises at least 90 wt% of water, and the water content in the aqueous medium is 0.5- to 2-fold of a water content in the reaction gas introduced into the collection column.

24. (New) The method according to claim 23, wherein a degree of fluctuation of the temperature at the top of the collection column is within 2°C in steady operation conditions.

25. (New) The method according to claim 24, wherein the temperature at the top of the collection column is kept within $\pm 1^\circ\text{C}$ of a temperature in steady operation conditions.

26. (New) The method according to claim 17, wherein the aqueous medium introduced into the collection column comprises at least 90 wt% of water, wherein the water content in the aqueous medium is 0.5- to 2-fold of a water content in the reaction gas introduced into the collection column, and B/A is $0.8 < (B/A) \leq 1.15$.